

REMARKS/ARGUMENTS

Claims 135-153, 186-201 and 204-205 are currently of record pending continued examination under 37 C.F.R. §1.114. Continued examination and reconsideration of all claims currently remaining of record is respectfully requested.

The Abstract is amended to more closely reflect the subject matter of the pending claims. Claims 135, 144, 145, 149, 186, 187, 188, 195, 196, 200 and 204 are amended above so as to give greater emphasis to some of the novel and patentable features set forth in these claims. The amendments are fully supported by the original disclosure and, thus, no new matter has been added. If the Examiner should disagree, however, it is respectfully requested that the challenged limitation be pointed out with particularity in the next Action so support may be cited in response.

Claims 141 and 192-194 are cancelled without prejudice or disclaimer.

Re the non-statutory Obviousness-type Double Patenting Rejection:

Claims 135-153, 186-201 and 204-205 currently stand rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-57 of U.S. Patent 5,388,841 to San et al. in view of Logg (U.S. patent 5,415,549). Applicants respectfully traverse this rejection for at least the following reasons:

Applicants' claims 135-153, 186-201 and 204-205 as presently amended are directed toward a "home video game system for use with a television type monitor display" and specifically require, among other things, a "game program processor" for executing a videographics program that includes instructions for constructing and displaying 3D graphic objects and a "special purpose hardware graphics processor" *that performs 3x3 matrix*

transformations on x, y and z graphics data to provide rotated and scaled polygon-based 3D objects. These particular features are not recited in the claims of the '841 patent nor are these features obvious from the context of the '841 patent claims. In particular, neither the '841 patent nor Logg teach or suggest a game device that uses a special purpose hardware graphics processor that performs 3x3 matrix transformations on x, y and z graphics data to provide rotated and scaled polygon-based 3D objects. Accordingly, Applicants respectfully contend that pending claims 135-153, 186-201 and 204-205, as presently amended, are patentably distinct over the claims of the '841 patent at least because of the recited special purpose hardware graphics processor that performs 3x3 matrix transformations on x, y and z graphics data to provide rotated and scaled polygon-based 3D objects.

Re the 35 U. S. C. § 103(a) Rejections:

Claims 135 and 136 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent 5,016,876 to Loffredo in view of U.S. Patent 5,415,549 to Logg. Applicants respectfully traverse this rejection for at least the following reasons:

Applicants' independent claim 135 as amended requires a programmable special purpose hardware graphics processor unit that performs 3x3 matrix transformations on x, y and z graphics data to provide rotated and scaled polygon-based 3D objects. Neither Loffredo nor Logg, considered either alone or together, teach or suggest a home video game system having a game processor for executing at least a portion of a game program that includes instructions for constructing and displaying 3D graphic objects together with a separate programmable special purpose hardware graphics processor within the same home video game system, wherein the special purpose hardware graphics processor performs a 3x3 matrix transformation on x, y and z graphics data to provide rotated and/or scaled polygon-based 3D graphic objects at high speed,

as required by applicants' claims. Applicants' rejected dependent claim 136 incorporates the features of amended independent claim 135 from which it depends and is likewise patentably distinct over the cited prior art for at least the same reason.

The Loffredo '876 patent does not teach or suggest performing the constructing or rendering of virtual 3D graphic objects or performing matrix transformation operations on x, y and z graphics data for rotating or scaling 3D graphic objects. In fact, Loffredo effectively teaches away from constructing and displaying polygon-based 3D graphic objects because it is directed toward providing a DMA coprocessor for use in a video game machine that displays composite scenes by superimposing many overlapping planes of image data (i.e., separate images lying in a plurality of distinct image planes), each plane of image data inherently comprising only 2D graphic image data. The Logg '549 patent fails to teach or suggest any special purpose hardware graphics processor that cooperates with a host processor, computer or PC that performs a 3x3 matrix transformation on x, y and z graphics data to provide rotated and/or scaled polygon-based graphic objects for constructing and displaying 3D graphic effects at high speed, as set forth in applicant's claims as amended. Consequently, even assuming for the sake of argument that the features of Logg were properly applicable to Loffredo, Logg does not remedy the deficiencies of Loffredo with respect to the claimed performing of matrix transformation operations on x, y and z graphics data for rotating or scaling 3D graphic objects. As such the proposed combination would not have resulted in the subject matter of Applicant's claims 136 and 136.

Claims 137-153, 186-201 and 204-205 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Loffredo and Logg and further in view of the PC TECH Journal publication,

“Custom-Tailored Graphics: TMS 34010”, by McNierney. Applicants respectfully traverse this rejection for at least the same reasons as set forth above in addition to the following reason:


Applicants’ independent claims 186, 187 and 204, as amended, require a programmable special purpose hardware graphics processor unit that performs 3x3 matrix transformations on x, y and z graphics data to provide rotated and scaled polygon-based 3D objects.

The PC TECH JOURNAL by McNierney, considered either alone or together with Loffredo and Logg, fails to teach or suggest a special purpose hardware graphics processor capable of performing a 3x3 matrix transformation of x, y and z 3D graphics data points to provide rotation and scaling of one or more polygon-based objects for constructing and displaying 3D graphic objects at high speed, as required by applicants' claims. Consequently, for at least the same reasons as set forth above with respect to Logg and Loffredo, the proposed combination would not have resulted in the subject matter of applicant's independent claims 186, 187 and 204. Applicant’s remaining rejected dependent claims incorporate the features of amended independent claims from which they depends and are likewise patentably distinct over the cited prior art for at least the same reason.

In view of Applicant's foregoing remarks and current amendments to the claims, it is believed that the application is in condition for allowance. Favorable consideration and allowance of this application are respectfully solicited. If any small manner remains outstanding, the Examiner is encouraged to telephone Applicants' representative at the telephone number listed below or on the following page.

Respectfully submitted,

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